

SEQUENCE LISTING

<110> Enerbäck, Sven
 Krook, Katarina
 Rondahl, Lena
 Wasserman, Wyeth

<120> PROMOTER SEQUENCES

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aag gag gc ^c gag aag aag gtg gtg atc aag agc gag gc ^c gc ^c tcc ccg Lys Glu Ala Glu Lys Lys Val Val Ile Lys Ser Glu Ala Ala Ser Pro	205	210	215	2894
gcg ctg ccg gtc atc acc aag gtg gag acg ctg agc ccc gag agc gc ^c Ala Leu Pro Val Ile Thr Lys Val Glu Thr Leu Ser Pro Glu Ser Ala	225	230	235	2942
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tgc gtc ccg ccc gc ^c ctg gac gag gc ^c ctc tcg gac cac ccg agc ggc Cys Val Pro Pro Ala Leu Asp Glu Ala Leu Ser Asp His Pro Ser Gly	350	355	360	3326
ccc acg tcg ccc ctg agc gct ctc aac ctc gc ^c gc ^c ggc cag gag ggc Pro Thr Ser Pro Leu Ser Ala Leu Asn Leu Ala Ala Gly Gln Glu Gly	365	370	375	3374
gcg ctc gc ^c gc ^c acg ggc cac cac cac cag cac cac ggc cac cac cac Ala Leu Ala Ala Thr Gly His His Gln His His Gly His His His	385	390	395	3422

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 Lys Gln Gly Trp Gln Asn Ser Ile Arg His Asn Leu Ser Leu Asn Glu
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 Phe Leu Arg Arg Arg Arg Phe Lys Lys Lys Asp Val Ser Lys Glu
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 Gly Ala Pro Ala Thr Pro His Leu Ala Asp Ala Pro Lys Glu Ala Glu
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 Gly Trp Gln Asn Ser Ile Arg His Asn Leu Ser Leu Asn Glu Cys Phe
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Thr Leu Asp Pro Asp Ser Tyr Asn Met Phe Glu Asn Gly Ser Phe Leu	
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Lys Val Glu Thr Leu Ser Pro Glu Ser Ala Leu Gln Gly Ser Pro Arg	
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Ile Met Thr Leu Arg Thr Ser Pro Pro Gly Gly Glu Leu Ser Pro Gly	
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Tyr Thr Gly Ala Glu Arg Pro Ala His Met Cys Val Pro Pro Ala Leu	
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Ala Gln Ala Ala Ser Trp Tyr Leu Asn His Ser Gly Asp Leu Asn His		
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Leu Pro Gly His Thr Phe Ala Ala Gln Gln Gln Thr Phe Pro Asn Val		
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Arg Glu Met Phe Asn Ser His Arg Leu Gly Ile Glu Asn Ser Thr Leu		
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Ser Thr Pro Pro Leu Tyr Arg His Ala Ala Pro Tyr Ser Tyr Asp Cys		
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acg aaa tac tgacgtgtcc cgggacctcc cctccccggc ccgctccggc		1477
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Thr Met Ala Ile Gln Asn Ala Pro Glu Lys Lys Ile Thr Leu Asn Gly			
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260 265 270	
Thr Ile Met Thr Leu Arg Thr Ser Pro Pro Gly Gly Asp Leu Ser Pro	

275	280	285	
Ala Ala Ala Arg Ala Gly Leu Val Val Pro Pro	Leu Ala Leu Pro Tyr		
290	295	300	
Ala Ala Ala Pro Pro Ala Ala Tyr Thr Gln Pro	Cys Ala Gln Gly Leu		
305	310	315	320
Glu Ala Ala Gly Ser Ala Gly Tyr Gln Cys Ser	Met Arg Ala Met Ser		
325	330	335	
Leu Tyr Thr Gly Ala Glu Arg Pro Ala His Val	Cys Val Pro Pro Ala		
340	345	350	
Leu Asp Glu Ala Leu Ser Asp His Pro Ser Gly	Pro Gly Ser Pro Leu		
355	360	365	
Gly Ala Leu Asn Leu Ala Ala Gly Gln Glu Gly	Ala Leu Gly Ala Ser		
370	375	380	
Gly His His His Gln His His Gly His Leu His	Pro Gln Ala Pro Pro		
385	390	395	400
Pro Ala Pro Gln Pro Pro Pro Ala Pro Gln Pro	Ala Thr Gln Ala Thr		
405	410	415	
Ser Trp Tyr Leu Asn His Gly Gly Asp Leu Ser	His Leu Pro Gly His		
420	425	430	
Thr Phe Ala Thr Gln Gln Thr Phe Pro Asn Val	Arg Glu Met Phe		
435	440	445	
Asn Ser His Arg Leu Gly Leu Asp Asn Ser Ser	Leu Gly Glu Ser Gln		
450	455	460	
Val Ser Asn Ala Ser Cys Gln Leu Pro Tyr Arg	Ala Thr Pro Ser Leu		
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Tyr Arg His Ala Ala Pro Tyr Ser Tyr Asp Cys	Thr Lys Tyr		
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<211> 3289

<212> DNA

<213> Homo sapiens

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Met Gln Ala Arg Tyr Ser Val Ser Asp Pro Asn Ala Leu Gly Val Val
1 5 10 15

ccc tac ctg agc gag cag aat tac tac cg_g gct g_cg g_gc agc tac gg_c 96
 Pro Tyr Leu Ser Glu Gln Asn Tyr Tyr Arg Ala Ala Gly Ser Tyr Gly
 20 25 30

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ggc atg gcc agc ccc atg ggc gtc tat tcc ggc cac ccg gag cag tac      144
Gly Met Ala Ser Pro Met Gly Val Tyr Ser Gly His Pro Glu Gln Tyr
            35           40           45

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agc gcg ggg atg ggc cgc tcc tac gcg ccc tac cac cac cac cag ccc 192
 Ser Ala Gly Met Gly Arg Ser Tyr Ala Pro Tyr His His His Gln Pro

50	55	60	
gct gct cct aag gac ctg gtg aag ccg ccc tac agc tac atc gct ctc Ala Ala Pro Lys Asp Leu Val Lys Pro Pro Tyr Ser Tyr Ile Ala Leu	65	70	75 80 240
atc acc atg gcc atc cag aac gct ccc gag aag aac atc acc ttg aac Ile Thr Met Ala Ile Gln Asn Ala Pro Glu Lys Lys Ile Thr Leu Asn	85	90	95 288
ggc atc tac cag ttc atc atg gac cgc ttc ccc ttc tac cgg gag aac Gly Ile Tyr Gln Phe Ile Met Asp Arg Phe Pro Phe Tyr Arg Glu Asn	100	105	110 336
aag cag ggc tgg cag aac agc atc cgc cac aac ctc tcg ctc aac gag Lys Gln Gly Trp Gln Asn Ser Ile Arg His Asn Leu Ser Leu Asn Glu	115	120	125 384
tgc ttc gtc aag gtg ccc cgc gac gac aag aag ccc ggc aag ggc agt Cys Phe Val Lys Val Pro Arg Asp Asp Lys Lys Pro Gly Lys Gly Ser	130	135	140 432
tac tgg acc ctg gac ccg gac tcc tac aac atg ttc gag aac ggc agc Tyr Trp Thr Leu Asp Pro Asp Ser Tyr Asn Met Phe Glu Asn Gly Ser	145	150	155 160 480
ttc ctg cgg cgc cgg cgg cgc ttc aaa aag aag gac gtg tcc aag gag Phe Leu Arg Arg Arg Arg Phe Lys Lys Lys Asp Val Ser Lys Glu	165	170	175 528
aag gag gag cgg gcc cac ctc aag gag ccg ccc ccg gcg gcg tcc aag Lys Glu Glu Arg Ala His Leu Lys Glu Pro Pro Pro Ala Ala Ser Lys	180	185	190 576
ggc gcc ccg gcc acc ccc cac cta gct gac gcc ccc aag gag gcc gag Gly Ala Pro Ala Thr Pro His Leu Ala Asp Ala Pro Lys Glu Ala Glu	195	200	205 624
aag aag gtg gtg atc aag agc gag gct gct tcc ccg gct ctg ccg gtc Lys Lys Val Val Ile Lys Ser Glu Ala Ala Ser Pro Ala Leu Pro Val	210	215	220 672
atc acc aag gtg gag acg ctg agc ccc gag agc gct ctg cag ggc agc Ile Thr Lys Val Glu Thr Leu Ser Pro Glu Ser Ala Leu Gln Gly Ser	225	230	235 240 720
ccg cgc agc gct gcc tcc acg ccc gct ggc tcc ccc gac ggt tcg ctg Pro Arg Ser Ala Ala Ser Thr Pro Ala Gly Ser Pro Asp Gly Ser Leu	245	250	255 768
ccg gag cac cac gcc gct ccc aac ggg ctg cct ggc ttc agc gtg Pro Glu His His Ala Ala Pro Asn Gly Leu Pro Gly Phe Ser Val	260	265	270 816
gag aac atc atg acc ctg cgt acg tcg ccg ccg gct gga gag ctg agc Glu Asn Ile Met Thr Leu Arg Thr Ser Pro Pro Gly Gly Glu Leu Ser	275	280	285 864

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tac gcc gcc gcg ccg ccc gcc tac ggc cag ccg tgc gct cag ggc Tyr Ala Ala Ala Pro Pro Ala Ala Tyr Gly Gln Pro Cys Ala Gln Gly 305 310 315 320	960
ctg gag gcc ggg gcc ggc ggg ggc tac cag tgc agc atg cga gcg atg Leu Glu Ala Gly Ala Ala Gly Gly Tyr Gln Cys Ser Met Arg Ala Met 325 330 335	1008
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gcc ctg gac gag gcc ctc tcg gac cac ccg agc ggc ccc acg tcg ccc Ala Leu Asp Glu Ala Leu Ser Asp His Pro Ser Gly Pro Thr Ser Pro 355 360 365	1104
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acg ggc cac cac cac cag cac cac ccg cag ggc ccg ccc Thr Gly His His His Gln His His His His Pro Gln Ala Pro 385 390 395 400	1200
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gcc gcg gcg cag gcg gcc tcc tgg tat ctc aac cac agc ggg gac ctg Ala Ala Ala Gln Ala Ala Ser Trp Tyr Leu Asn His Ser Gly Asp Leu 420 425 430	1296
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aac gtg cgg gag atg ttc aac tcc cac cgg ctg ggg att gag aac tcg Asn Val Arg Glu Met Phe Asn Ser His Arg Leu Gly Ile Glu Asn Ser 450 455 460	1392
acc ctc ggg gag tcc cag gtg agt ggc aat gcc agc tgc cag ctg ccc Thr Leu Gly Glu Ser Gln Val Ser Gly Asn Ala Ser Cys Gln Leu Pro 465 470 475 480	1440
tac aga tcc acg ccg cct ctc tat cgc cac gca gcc ccc tac tcc tac Tyr Arg Ser Thr Pro Pro Leu Tyr Arg His Ala Ala Pro Tyr Ser Tyr 485 490 495	1488
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 <212> PRT
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 Gly Met Ala Ser Pro Met Gly Val Tyr Ser Gly His Pro Glu Gln Tyr
 35 40 45
 Ser Ala Gly Met Gly Arg Ser Tyr Ala Pro Tyr His His His Gln Pro
 50 55 60
 Ala Ala Pro Lys Asp Leu Val Lys Pro Pro Tyr Ser Tyr Ile Ala Leu
 65 70 75 80
 Ile Thr Met Ala Ile Gln Asn Ala Pro Glu Lys Lys Ile Thr Leu Asn
 85 90 95
 Gly Ile Tyr Gln Phe Ile Met Asp Arg Phe Pro Phe Tyr Arg Glu Asn
 100 105 110
 Lys Gln Gly Trp Gln Asn Ser Ile Arg His Asn Leu Ser Leu Asn Glu
 115 120 125
 Cys Phe Val Lys Val Pro Arg Asp Asp Lys Lys Pro Gly Lys Gly Ser
 130 135 140
 Tyr Trp Thr Leu Asp Pro Asp Ser Tyr Asn Met Phe Glu Asn Gly Ser
 145 150 155 160
 Phe Leu Arg Arg Arg Arg Arg Phe Lys Lys Lys Asp Val Ser Lys Glu
 165 170 175
 Lys Glu Glu Arg Ala His Leu Lys Glu Pro Pro Pro Ala Ala Ser Lys
 180 185 190
 Gly Ala Pro Ala Thr Pro His Leu Ala Asp Ala Pro Lys Glu Ala Glu
 195 200 205
 Lys Lys Val Val Ile Lys Ser Glu Ala Ala Ser Pro Ala Leu Pro Val
 210 215 220
 Ile Thr Lys Val Glu Thr Leu Ser Pro Glu Ser Ala Leu Gln Gly Ser
 225 230 235 240
 Pro Arg Ser Ala Ala Ser Thr Pro Ala Gly Ser Pro Asp Gly Ser Leu
 245 250 255
 Pro Glu His His Ala Ala Ala Pro Asn Gly Leu Pro Gly Phe Ser Val
 260 265 270
 Glu Asn Ile Met Thr Leu Arg Thr Ser Pro Pro Gly Gly Glu Leu Ser
 275 280 285
 Pro Gly Ala Gly Arg Ala Gly Leu Val Val Pro Pro Leu Ala Leu Pro
 290 295 300
 Tyr Ala Ala Ala Pro Pro Ala Ala Tyr Gly Gln Pro Cys Ala Gln Gly
 305 310 315 320
 Leu Glu Ala Gly Ala Ala Gly Gly Tyr Gln Cys Ser Met Arg Ala Met
 325 330 335
 Ser Leu Tyr Thr Gly Ala Glu Arg Pro Ala His Met Cys Val Pro Pro
 340 345 350
 Ala Leu Asp Glu Ala Leu Ser Asp His Pro Ser Gly Pro Thr Ser Pro
 355 360 365
 Leu Ser Ala Leu Asn Leu Ala Ala Gly Gln Glu Gly Ala Leu Ala Ala
 370 375 380
 Thr Gly His His His Gln His His Gly His His His Pro Gln Ala Pro
 385 390 395 400

Pro Pro Pro Pro Ala Pro Gln Pro Gln Pro Thr Pro Gln Pro Gly Ala
 405 410 415
 Ala Ala Ala Gln Ala Ala Ser Trp Tyr Leu Asn His Ser Gly Asp Leu
 420 425 430
 Asn His Leu Pro Gly His Thr Phe Ala Ala Gln Gln Gln Thr Phe Pro
 435 440 445
 Asn Val Arg Glu Met Phe Asn Ser His Arg Leu Gly Ile Glu Asn Ser
 450 455 460
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 Tyr Arg Ser Thr Pro Pro Leu Tyr Arg His Ala Ala Pro Tyr Ser Tyr
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 Asp Cys Thr Lys Tyr
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 accttgaacg gcatctacca gtcatcatg gaccgttcc cttctaccc ggagaacaag 240
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<210> 13
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 <212> DNA
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 gttgtttgt ttccctcagat gacattgggt taaaccggga cacccttgc aatacaaacg 180
 taggcagcaa ctgcatttt ggaattttt tttcatagt ctttagctat ttttaggttt 240
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<400> 20
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24

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25

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25

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<220>
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26

<210> 24

<211> 31
<212> DNA
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<220>
<223> primer for PCR

<400> 24
ggaagtgtct ctctcacctt ttctgtcttg a

31

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